DOCUMENT RESUME

ED 425 380 CG 028 931

AUTHOR Robertson, Ivan; Fairweather, John
TITLE The Role of Personality in Work Performance: Understanding the Results of Research.
PUB DATE 1998-08-00
NOTE 20p.; Paper presented at the Annual Convention of the American Psychological Association (106th, San Francisco, CA, August 14-18, 1998).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adults; *Behavior Theories; *Employment Qualifications; *Occupational Tests; Personality; Personality Assessment; *Personality Traits; Personnel Evaluation

ABSTRACT

Interest in personality in work and organizational psychology has never been stronger. A substantial amount of work exploring the links between personality variables and work behavior and attitudes is now available. Much of this work has been conducted within a selection and assessment context, although relevant work has also been done in other areas of research. The selection and assessment paradigm, within work and organizational psychology, emphasizes measurement and prediction, often at the expense of explanation. This paper attempts to redress this balance by providing a review of the evidence concerning personality variables and work-related dependent variables together with an explicit attempt to integrate the work conducted within selection and assessment into a broader empirical and explanatory framework. A framework linking personality to work performance is presented and used to interpret and evaluate the results of the research. A variety of specific current issues are considered, including: the value and benefits of structural frameworks for personality variables (e.g., the big five, big three, and big nine); the importance of considering interactions between personality factors; the extent to which personality variables can be expected to predict work performance directly, and the importance of situational influences. (Author)

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ED 425 380

The role of personality in work performance: understanding the results of research

Ivan Robertson and John Fairweather

SHL/UMIST Centre for Research in Work and Organisational Psychology

Manchester School of Management

University of Manchester Institute of Science and Technology

Presented at the Joint SIOP/EAWOP Symposium

Five-factor model in personnel selection and testing - international perspectives

American Psychological Association Annual Convention

San Francisco CA USA

August 1998

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Abstract

Interest in personality in work and organisational psychology has never been stronger. A substantial amount of work exploring the links between personality variables and work behaviour and attitudes is now available. Much of this work has been conducted within a selection and assessment context, although relevant work has also been done in other areas of research. The selection and assessment paradigm, within work and organisational psychology, emphasises measurement and prediction, often at the expense of explanation. This paper attempts to redress this balance by providing a review of the evidence concerning personality variables and work-related dependent variables together with an explicit attempt to integrate the work conducted within selection and assessment into a broader empirical and explanatory framework. A framework linking personality to work performance is presented and used to interpret and evaluate the results of the research. A variety of specific current issues are considered, including: the value and benefits of structural frameworks for personality variables (e.g. the big five, big three and big nine); the importance of considering interactions between personality factors; the extent to which personality variables can be expected to predict work performance directly and the importance of situational influences.

The role of personality in work performance: Understanding the results of research.

Research in personnel selection has produced a number of important findings concerning the relationships between personality constructs and performance-related variables. Key results have appeared in the meta-analysis articles which have been published over the last eight years or so. Barrick and Mount (1991) investigated the criterion-related validity for all of the FFM personality constructs against overall performance and training criteria. Their findings showed generalisable validity for conscientiousness. They also found that extraversion was positively related to performance in sales and managerial jobs. Tett, Jackson and Rothstein (1991) also investigated the validity of the FFM personality constructs. Their study compared individual validity studies which had used either exploratory or confirmatory design. The results showed that better validities were obtained in studies where confirmatory designs had been used. They did not find generalisable validity for conscientiousness. There findings, based on confirmatory studies only, revealed validities for personality constructs ranging from .16 for extraversion through to .33 for agreeableness. Using a completely independent data base, derived from the studies conducted in the European community, Salgado (1997) also explored the criterion-related validity for the FFM personality constructs. His results showed some similarities with the findings of both Barrick and Mount (1991) and Tett et al. (1991). Salgado (1997) found that conscientiousness showed the highest estimated true validity and like Barrick and Mount (1991) he found that conscientiousness showed generalisable validity. In line with Tett et al. (1991), Salgado also found that emotional stability showed reasonably good validity and generalisability. This result is consistent with Hough et al. (1990). Ones, Schmidt and Viswesvaran (1994) showed that the broad construct of integrity, which includes agreeableness and emotional stability as well as conscientiousness, provided good criterion related validity for supervisory ratings of job performance (.41). Taken together, the results of the studies indicate that personality constructs do show a reasonably good criterion related validity. On the other hand, the results are not perfectly consistent. This point will be explored more fully later.

Results reported by Robertson and Kinder (1993), who applied meta-analytic procedures to a large data set concerning the Occupational Personality Questionnaire revealed that

personality and ability have unique criterion-related variance in relation to a variety of work competencies. In their study the validity coefficients for the personality constructs were barely diminished by the prior inclusion of ability into the prediction equation.

For obvious reasons, research in personnel selection has focused on the extent to which personality constructs are associated with performance-related variables, such as supervisory ratings of work performance and overall job proficiency. Research in other areas of psychology has shown that personality constructs are also associated with a variety of other relevant dependent variables. These include job satisfaction, organisational citizenship behaviour (Konovsky and Organ, 1996), occupational injury (Iverson and Erwin, 1997) etc.

The research relating personality to a range of dependent variables, which has been conducted in work and organisational psychology, may be placed in a wider context. For example, there is a growing interest in the role of personality in health and other more general areas of interest (e.g. longevity, Friedman et al., 1993). The research in the health domain concerning personality is based on a number of potential explanatory models concerning the link between disposition and health-related outcomes. The primary explanatory frameworks include: (i) the idea that personality is associated with underlying constitutional factors which could predispose individuals to certain health-related outcomes; (ii) the possibility that personality traits are causally related to specific behaviours, which are dangerous or protective and may influence health-related outcomes and the possibility that personality characteristics may serve to moderate the impact of acute stress and/or the intensity of the physiological stress response (see, for example, Smith and Williams, 1992; Lemos-Giraldez and Fidalgo-Aliste, 1997).

Personality theory

Although research in personnel selection has clearly made some contribution to knowledge concerning personality and behaviour, this contribution emphasises empirical findings rather than theoretical frameworks or ideas.

Personality theory may be divided into two major domains. First, there is the domain which is of most direct relevance to research in personnel selection: the trait factor-analytic theory. This approach to personality theory is heavily empirically driven. The FFM factors have emerged as a consequence of repeated empirical investigations. Trait theory concentrates on the structure of personality and does not provide a great deal of information concerning personality processes.

Other approaches to personality theory emphasise process rather than structural factors and the cognitive affective processing system described by Mischel and his collaborators (e.g.Mischel and Shoda, 1998) is probably the most important theoretical position which emphasises the process dynamics of personality.

The emphasis on structure or process is not the only feature which distinguishes the trait approaches from cognitive-affective approaches. Trait theorists and researchers have consistently focused on the extent to which behaviour is consistent across situations. By contrast, the cognitive affective approach of Mischel and Shoda (1998) is much more concerned with the extent to which behaviour is consistent within specific situations. In some ways, this difference in emphasis is even more important than the concentration on process or structure.

Mischel and Shoda (1995) looked at the apparent anomaly of the "invariance of personality and the variability across situations" which led to their propositions concerning a "cognitive affective system" to explain intra-individual dynamics. In addition they were able to demonstrate individual consistency across situations. In their opinion the root to interpretation and prediction of behaviour lies in the use of, "If A then ..X" type equations based on the history of the individual.

The term "history" as used above is produced by a cognitive affective system that has a set of components working together to produce the required behavioural response(s). Shoda and Michel suggest five components:-

1] Encodings - e.g. self, people and events

2] Expectancies and beliefs - e.g. self efficacy, social world

3] Affects - e.g. feelings and emotions

4] Goals and values e.g. desirable and aversive outcomes, life projects

5] Competencies and Self regulatory plans e.g. plans and strategies for organising and obtaining outcomes

The important shift in emphasis with this approach is the change in focus from "how much" of a particular trait to organisation and relational structures that form a "whole" personality acting in a dynamic way to produce the situation-person interaction. In a study of the pro-social behaviour of children in a summer camp, Mischel and Shoda (1995) were able to show that predictions about behavioural consistency and variability across situations became possible. They were able to show a consistency across situations as well as a consistency in variation across other situations.

McCrae and Costa (1996) take forward the trait factor analytic approach in a theoretical paper which includes notions of elements and dynamic process combined in a "system". In this case we have six components: -

1] Basic Tendencies - Hierarchical traits that characterise the differences between people that develop over time towards stability within the individual

2] Characteristic Adaptations - personal patterns based on individual experience that may or may not meet current cultural values but which are changeable over time

3] Objective Biography - personal history that informs and relates to how actions are organised over time

4] Self-concept - information database accessible to the individual that enables people to maintain an internal sense of consistency

5] External Influences - interactions that shape characteristic behaviour viewed in a trait consistent manner and the influence the individual has on their environment. N.B. this element contains the idea that "individuals create societies and cultures that provide a range of options for expressing personality traits.

6] Dynamic Processes - changes to personal trait structure brought about by interaction and the reciprocal tendency of traits to invoke reactions

To date McCrae & Costa have not attempted any empirical study to validate this theoretical model in its present form although work on behaviour consistency across situations is well documented.

Clearly there are similarities [and differences] with the work of Mischel and Shoda. Both appear to take a holistic systems view of the human personality with components that share overlapping functions. In general both theories contain a process responsible for setting goals and avoiding unpleasant outcomes, a variable store for events and beliefs, a planning mechanism and an action and feedback element. However, where the similarity ends is the reason for the system's existence in the first place.

For McCrae and Costa (1997) the purpose of their system is to interpret data and produce behaviour that confirms an inner sense of well being safe in the knowledge that the world has a place for a person like them. "What all people seem to be able to do is to create a life that reflects, for good or ill, their enduring dispositions". (McCrae & Costa (1997). In systems thinking terms a purposive control - purpose without choice.

By contrast, Mischel & Shoda (1998) see individuals making a more dynamic and open selection about their reactions to particular situations. The system coming up with behaviours that consistently move towards the achievement of, for example, "life projects" but able to create alternative courses of action (behaviour) to meet those objectives. Purposeful control or purpose with choice.

Examining personnel selection research into personality

There is no doubt that the research concerning personality within the personnel selection field has provided interesting and useful findings. Less than 10 years ago personality was unlikely to be considered useful in the personnel selection process. As

a direct consequence of research conducted within the last decade, personality assessment is now widely used within personnel selection and assessment practice. The results of research have established clear relationships between personality constructs and both work performance and training criteria. In particular, the findings concerning conscientiousness and emotional stability show some evidence of generalisable validity for these constructs; furthermore, it is also clear that personality constructs provide criterion-related validity which does not overlap with general mental ability. In addition to these established findings researchers within personnel selection are beginning to address other issues, which will provide a more elaborate and conceptually sound understanding of the links between personality and performance. For example, Barrick and Mount (1993) have explored the relationship between conscientiousness and performance and established that goal setting is the mediating variable which, at least in part, explains the better performance of people who are high on conscientiousness. Although these findings are encouraging, there are also limitations in the research which has been done and there is an absence of a strong conceptual framework linking the structural factors of the FFM taxonomy with work-related behaviour.

The next section of this paper provides a critical examination of the available research and suggests some alternative perspectives and ideas which might stimulate further development and provide a better basis for interpreting existing research output. This critical review provides the basis for a framework which attempts to place the relationships between personality and work performance on a sounder conceptual basis.

An examination of the research literature enables an implicit goal of current research concerning personality within personnel selection to be inferred. This goal appears to be to, " ***assess the extent to which personality variables predict performance in jobs or job families***". This implicit goal reflects the nature of much, if not all, of the research concerning personality within the personnel selection literature. A detailed analysis of the limitations of this goal exposes a number of areas where research might develop and overcome conceptual or methodological constraints.

First, it is interesting to consider the personality variables which are used to predict performance. All of the meta-analytic studies described above suffer from the same limitation - many of the original validity studies used in the meta-analyses did not make explicit use of FFM variables. In order to conduct their meta-analyses the investigators had to assign the original personality variables to the FFM categories. This limitation is clearly acknowledged by all of the authors of the meta-analytic studies; nevertheless it does highlight a more fundamental difficulty. That difficulty concerns the adequacy of the FFM as a taxonomy of personality constructs. Although the FFM has provided a useful common structure for personality factors, there is less than universal agreement that the FFM should be the primary model. In a trenchant critique Block (1995a, see also, Costa and McCrae, 1995; Block 1995b; Goldberg and Saucier, 1995) raised a number of concerns about the FFM, including uncertainty about the replicability and substantive meaning of the factors. Others, notably Hough (1992) have proposed alternative structures.

As well as uncertainty about the primacy and adequacy of the FFM there is interest in the extent to which the level of analysis of personality provided by the FFM provides utility in the use of personality to predict performance. Ones and Viswesvaran (1996) presented a compelling, empirically-based argument in favour of the benefits of broad personality constructs (i.e. the FFM or combinations of FFM constructs). Others (e.g. Schneider et al., 1996) have presented persuasive arguments in favour of the use of more specific personality variables. Specific tests of the value of different levels of measurement are rare, though there is some evidence to support both positions (Ones, Schmidt and Viswesvaran, 1994; Paunonen, 1998).

A further limitation of the personality variables used in research studies so far is that almost all of the existing studies have focused on the validity of single personality variables. In recent years the variables in question have generally been selected from within the FFM framework and this has introduced a useful degree of comparability across studies. The use of single variables, however, even if they are from the FFM, does not replicate the use of personality in personnel selection practice nor in explaining and understanding behaviour. Personality constructs do not act individually

to help to determine behaviour. The personality constructs interact with each other. For example, in an organisational setting, a person who is high on agreeableness may be keen to reduce conflict when it arises. The tactics used to reduce conflict will however be different, depending on the extent to which the person is introverted or extraverted. In other words, agreeableness and extraversion interact to determine the conflict reduction tactics adopted. Although there are some studies which explore the extent to which the personality variables interact with other types of the variables to predict performance (e.g. Barling, Kelloway and Cheung, 1996) we could find no study in the personnel selection literature which explored the interaction of personality variables in the prediction of performance-related variables. There are clearly substantial methodological difficulties in exploring the interaction of personality variables within a meta-analytic study, though it may be possible to do so. It is however, relatively straightforward to explore the interaction of personality constructs in predicting performance within individual studies.

The prediction of performance from personality variables raises further interesting issues. The most important of these concerns the extent to which the five factors of personality, or indeed any other personality variable(s) are viewed as causal factors in determining behaviour, or as merely descriptive. The position taken by leading FFM theorists (see Costa and McCrae, 1996) is clear. They take the view that people possess underlying, consistent individual differences which exert a causal influence on behaviour. Of course, they also take the view that this behaviour is consistent across situations. An alternative view of personality traits, including the FFM, is that they reflect no more than psycholexical descriptors of behaviour (see Mischel and Shoda, 1998). As noted earlier, most research in personnel selection focuses on the empirical exploration of relationships between personality constructs and performance-related criterion variables. There is rarely any explicit discussion, at the psychological level, of the reasons for the links between personality and performance. In general, it seems that authors assume that personality variables have a causal role in determining behaviour but this is rarely made explicit. There is a clear requirement for coherent theoretical ideas which link personality constructs, either as psycholexical descriptors, or causal agents with relevant dependent variables.

The focus of much personnel selection practice and research is on work performance. Other dependent variables such as absenteeism, turnover, training proficiency and adjustment are also of interest but the dominant dependent variables in the personnel selection literature is work performance. As noted earlier, research in personality is no exception. This concentration on the use of personality factors to predict performance begs the question of the likely association between personality characteristics and standards of performance. Unlike general mental ability, personality is concerned with the style and tactics of behaviour rather than the standard of performance. It seems clear that personality factors, since they are related to behaviour in general, are very likely to be linked to work behaviour. The results of investigations reported earlier concerning links between personality constructs and performance level at work may be seen as either encouraging or perhaps disappointing since the validity coefficients obtained for personality constructs, even after correction for range restriction and unreliability, are not particularly large. This may be because there is no strong reason to expect personality to be predictive of overall performance, even within specific jobs or job families. Performance in any job is not unidimensional. Overall performance is the result of a variety of more specific sub-components. In the UK and Europe these specific performance factors are generally referred to as competencies, although the use of this term in North America seems to be different. The extent to which a person performs well or badly is a consequence of the extent to which he or she achieves performance standards on competencies of relevance to the demands of the job. It is perfectly possible to imagine similar levels of overall performance, for different jobs in the same general family, which result from substantially different capabilities in the set of competencies of relevance to the job. For example, in one organisation sales managers who achieve high overall performance may need particular strengths in organisational ability and detailed product knowledge. In another sales setting, motivating others and interpersonal skills may be more important. Because of the general requirements of all jobs within the general sales family, extraversion and conscientiousness may show some links with the overall performance in both jobs. This would be consistent with the findings of Barrick and Mount (1991) and Salgado (1997). It seems quite likely, however, that the specific performance factors of organisational ability and detailed product knowledge would be associated with

conscientiousness, whereas motivation and interpersonal skills might be related to extraversion. On this basis, specific performance factors (competencies) may be predicted more accurately than overall performance, from personality factors.

The arguments given above lead to the view that attempts to predict overall performance, rather than specific performance factors, may be flawed and that personnel selection research might usefully focus on the prediction of facets of performance, rather than overall performance. Some research has been conducted along these lines (e.g. Robertson and Kinder, 1993) and the findings suggest that personality factors do indeed predict some specific performance facets (competencies) reasonably well. Unfortunately, this approach also seems to have limitations. The central limitation is that the level of performance achieved on specific work competencies may not be determined directly by personality characteristics. Personality characteristics are, of course, predictive of behaviour. It seems more likely however, that they might be associated with the tactics and style of behavioural competencies, rather than the level of performance. To repeat an example already used, someone who is high on agreeableness and high on extraversion is likely to utilise different tactics in attempting to reduce conflict, compared with a colleague who is also high on agreeableness but more introverted.

Buss and his colleagues (e.g. Buss,1992; Kyl-Heku and Buss, 1996) have provided a good model for investigations of the role of tactics within work settings. Buss (1992) focused on the tactics of manipulation in close personal relationships. He first identified the tactics that people used by gathering self- report data. The self- report data were then factor analysed to identify the major factors. Buss (1992) identified 12 major factors, associated with different manipulation tactics.

Buss then investigated the relationships between the FFM factors and the manipulation tactics used. Correlations of up to .5 were revealed. Perhaps more significantly, the correlations between the FFM factors and the manipulation tactics were psychologically convincing. For example, agreeableness was associated with the use of pleasure induction as a manipulation tactic. Conscientiousness, agreeableness and

openness were linked to the use of reason. Emotional stability and surgency (negatively) were related to the use of "hard ball" tactics.

This view, that personality is associated with the tactics of performance, rather than the level may, at first sight, seem to suggest that the personality characteristics will never predict standards of performance on specific competencies. In fact, this is not so. The link between personality and standards of performance is dependent on the situation in which the person is acting. This is because the extent to which a tactic or style of behaviour is successful or otherwise depends not only on the tactics adopted but also, to a degree, on situational features. For example, tactics which work effectively to reduce conflict in one setting may fail completely elsewhere.

The emphasis in trait psychology on the cross-situational consistency of behaviour is in stark contrast to cognitive-affective approaches to personality (Mischel and Shoda , 1995, 1998; Shoda and Mischel, 1996; Shoda, Mischel and Wright, 1993), which reveal high consistency of behaviour within, rather than between situations. The extent to which behaviour is consistent within or between situations is a topic of current interest to researchers (see Hendriks, 1996, Van Heck et al., 1994). It seems likely that, to some degree, both positions are accurate. The evaluation of either perspective is hampered by the lack of understanding concerning the salient psychological features of situations. A clear understanding of situational factors has been a theme within individual difference psychology for many years. It remains a topic of substantial importance, especially in evaluating research designed to explore relationships between personality constructs and work performance. The implicit goal of this research, identified earlier, indicates the major situational factor which has been considered: investigators have concentrated on the extent to which jobs have exerted a moderating effect on the personality performance relationship. In fact, it seems unlikely that such a crudely calibrated situational factor as job or job family will adequately represent the psychologically salient features of situations.

The examination of personnel selection research has so far raised a number of key points: the importance of interactions between personality variables in predicting

behaviour; the fact that a model of the causal relationships involved will assist in the interpretation of existing work and the design of further research; the fact that concentrating on the overall performance is unlikely to enable strong relationships between personality and performance to be identified and that an understanding of how personality characteristics relate to behaviour and performance needs to incorporate the role of situational factors.

Integration

With the assistance of further theoretical ideas the points raised so far in this paper may be integrated to form an overall framework for relationships between personality and work performance. A diagram of the framework is given in figure 1.

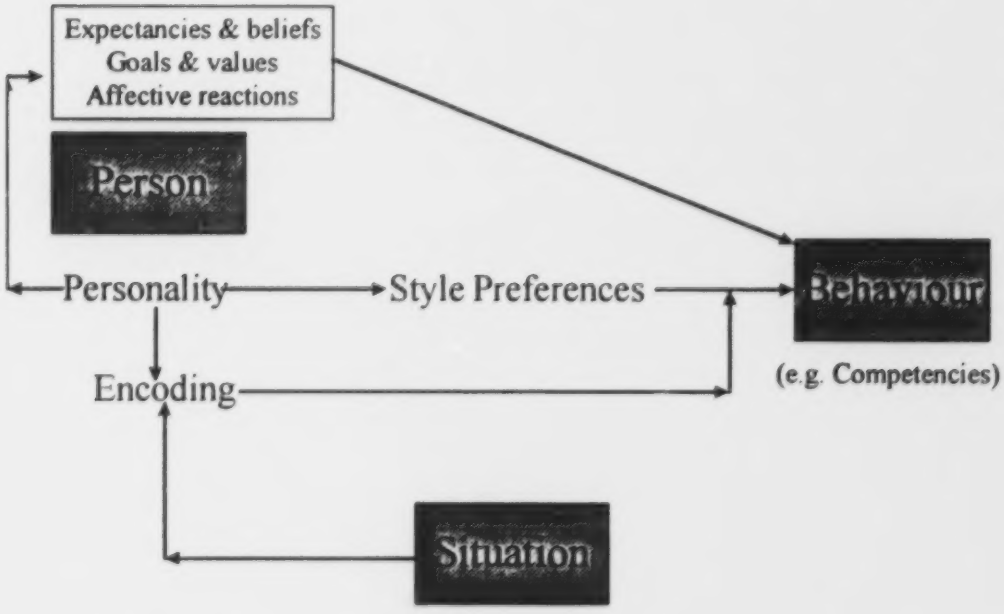

Figure 1 Personality processes and behaviour

The stable dispositional qualities characterised by the FFM personality factors originate from a mixture of environmental and genetic factors. These personality factors are associated with the preferences that people have for various behavioural tactics. The extent to which these preferences influence job performance is moderated by situational factors. Information about salient psychological features of situations is

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encoded and helps to determine the emergent behaviour. The information that is encoded concerning situations may also be influenced both by stable dispositional qualities and by the cognitive-affective mediating variables which form the CAPS system in Mischel's theoretical framework.

The framework presented here is almost certainly inadequate and may well be incorrect in some ways; nevertheless the framework serves to illustrate the important point that direct relationships between personality factors and overall work performance are unlikely to be strong. Pervin (1994), when reviewing the evidence concerning the relationships between personality and overall work performance, noted that, "In areas such as this, I'm still not sure that we have gone much beyond the .3 correlation barrier between trait measures and measures of behaviour" (cited in Mischel and Shoda, 1998, P. 250-251). Stronger empirical relationships will be more likely to arise when predictions are derived from sophisticated theoretical principles.

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